

**BEFORE THE TENNESSEE REGULATORY AUTHORITY  
NASHVILLE, TENNESSEE**

IN RE: PETITION OF UNITED CITIES GAS )  
COMPANY FOR EXPEDITED APPROVAL )  
OF AUTHORITY TO PURCHASE FUTURES )  
CONTRACTS FOR THE WEATHER HEATING )  
SEASON OF 2001-02 ON AN EXPERIMENTAL )  
BASIS )  
)

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OFFICE OF THE EXECUTIVE SECRETARY  
DOCKET NO. 01700510

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PETITION FOR EXPEDITED APPROVAL OF AUTHORITY TO PURCHASE FUTURES  
CONTRACTS FOR THE WINTER HEATING SEASON OF 2001-02  
ON AN EXPERIMENTAL BASIS

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United Cities Gas Company ("UCG") files this petition to request that the TRA authorize it to institute an experimental hedging strategy focused on achieving improved stabilized gas cost for consumers during the winter heating season of 2001-02. After experiencing nearly 15 years of generally flat prices, natural gas prices surged by 320% to an all-time high of \$9.98 per MMBtus in December of 2000. Although market prices have declined since the beginning of 2001, they remain much higher than the average of \$2.05 per MMBtus experienced during the period from 1991 to 1999.

The huge increase in gas prices experienced in 2000 was attributable primarily to supply shortages resulting from less natural gas exploration and development than was necessary to meet the increase in demand. While higher prices will promote increased investment in exploration and development of new gas sources, which over time will help hold down prices to consumers, it is not anticipated that these market responses will occur rapidly enough to prevent near term price spikes such as those experienced in December of 2000.

Under the current PBR which was approved by the TRA by orders issued on January 14, 1999 (Phase I) and August 16, 1999 (Phase II), UCG receives an incentive for out performing the market in the acquisition of gas supplies. By the same token, UCG is penalized if its acquisition of gas supplies results in a price above the pre-defined market benchmark.

Since the adoption of the PBR, UCG has successfully out performed the market resulting in consumers benefiting from lower than market prices. UCG executes an annual contract with a gas supplier to acquire gas at a designated cost below the market benchmark. While this method of contracting has benefited consumers, there is only a limited built-in hedge through summer storage against price spikes such as those experienced in December of 2000.

In an effort to address the potential for a repeat of the dramatic price increases experienced in 2000, UCG is proposing that up to 50% of the expected gas purchases net of storage for the winter heating season should be confirmed in advance through the acquisition of futures contracts. UCG is not proposing to benefit from any gain resulting from a profit on the futures contracts in the event winter market prices exceed the futures contracts previously acquired. Instead, UCG is proposing that any difference between the futures contract price and the market benchmark during the winter heating season be reflected on UCG's 191 deferred gas cost account.

To better illustrate the potential net effect of a partial futures hedging strategy, attached is an overview with four examples. The examples illustrate the impact of a strategy focused on the purchase of futures contracts for 50% of the expected gas purchases net of storage in a typical winter month. For instance, Example A analyzes the impact on gas cost assuming 50% of the expected gas purchases of a typical winter month are hedged at \$5.00 and market prices repeat the winter 2000-01 maximum of \$9.98 per MMBtus. Line 35 shows cost savings of

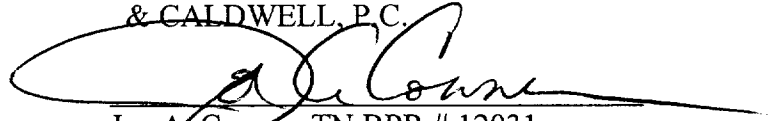
\$4,782,100.00. When the savings are applied to total requirements of 3,329 MMBtus, the resulting unit savings amounts to \$1.436 per MMBtus or \$20.11 per residential customer.

Because market prices vary over time, the critical element in any hedging-based stabilization strategy is timing. Price is preset at the time a hedge is established. Subsequent changes in market price reflect changing market conditions which can be both favorable and unfavorable. The attached examples reflect the impact of various market scenarios on gas cost when a portion of the purchased gas is hedged with financial futures.

In order to take advantage of the potential for stabilized gas cost during the winter heating season 2001-02, it would be necessary for UCG to act swiftly to lock in futures contracts while the market prices remain at or below \$5.00 per MMBtus. Accordingly, UCG is requesting that the TRA act on an expedited basis to consider this petition.

Respectfully submitted,

BAKER, DONELSON, BEARMAN  
& CALDWELL, P.C.

A handwritten signature in black ink, appearing to read "Joe A. Conner", is written over a horizontal line.

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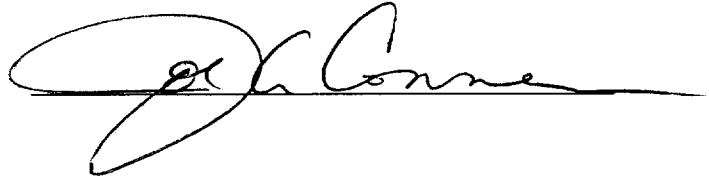
Attorneys for United Cities Gas Company

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing has been mailed, postage prepaid, to the following parties of interest this \_\_\_ day of June, 2001.

Richard Collier  
General Counsel, Tennessee Regulatory Authority  
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Timothy C. Phillips  
Office of Attorney General and Reporter  
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A handwritten signature in black ink, appearing to read "Richard Collier", written over a horizontal line.

## Overview

The attached models are examples of the effects of financial hedging on gas costs for a normal winter month. The impact of hedging activities on an individual residential customer is also presented. These models are not intended to be forecasts or predictive in nature. The intent is to analyze the relationship between various market price levels and gas cost. An important element is the separation of financial hedge effects from normal, ongoing PBR related gas purchasing activities. The results of hedging activity, whether beneficial or non-beneficial, will be recorded directly in Account 191, Unrecovered Purchase Gas Cost, and will not flow through the PBR.

## Format

Four examples are presented; A, B, C, and D.

- Example A – Winter 2000-01 Maximum Price Scenario
- Example B – High Price Scenario
- Example C – Neutral Price Scenario
- Example D – Low Price Scenario

The only variable element that changes in each example is the NYMEX Close Price which is unique to each model. Each example comprises two pages. Page 1 summarizes the assumptions and scenario parameters. Page 2 displays the calculations and results of the various price scenarios.

## Methodology and Explanation of Various Line Items

Line 2: Basing the storage price on the NYMEX strip for April through October assumes that storage is filled evenly over the customary injection season and at market based prices. April and May actual closing prices are used. The remaining front month contracts that are still open are priced at recent daily closing prices. A simple average is calculated by adding the monthly prices and dividing by the number of months.

Line 5: The Benchmark and NYMEX Close are assumed to be equivalent because the existing Benchmark calculation generally correlates with the NYMEX.

Line 6: Each model is intended to represent a normal winter month to simplify analysis. January normal requirement volumes and storage activity are used as typical winter month parameters.

Line 7: NYMEX Close is the final settlement price for a contract month. A contract closes on the third business day prior the end of the month. For example the January contract will close three business days prior to the last day of December. The NYMEX Close is used in the model to emulate the market price at the time gas is purchased. As noted in comments regarding Line 5 above, the NYMEX Close is also assumed to be equivalent to the benchmark for the month analyzed.

Line 9: The Futures Contract Price is the price of the monthly contract at the time the contract is purchased. The model uses \$5.00. The price of the January 2002 contract ranged between \$5.65 and \$4.76 during the thirty-day period ended May 22, 2001.

Line 10: The Settlement Differential reflects the benefit or cost related to the difference between the price of gas at the time the futures contract is settled (NYMEX Close) and the price of gas at the time the contract was purchased (Futures Contract Price). A positive result indicates an increase to purchased gas cost. A negative result indicates a decrease to purchased gas cost.

Line 13: Hedge cost – Includes in and out hedge transaction costs and carrying charges.

## EXAMPLE A

### UNITED CITIES GAS COMPANY TENNESSEE HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

Winter 2000-01 Maximum Price Scenario:

Period: One month

#### Assumptions:

1. Supply contract is for physical volumes
2. Storage price is based on April 2001 through October 2001 NYMEX strip
3. Residential usage in a typical winter month is 140 ccf (14 MCF) per customer
4. BTU factor is 1000
5. NYMEX Close and Benchmark are equivalent and are greater than futures contracts purchased

#### Period Analyzed:

- 6 One month based on January normal requirements and storage volumes

#### Winter 2000-01 Maximum Price Scenario:

##### Assumptions:

7	NYMEX Close	\$	9.980
8	Benchmark	\$	9.980
9	Futures Contract Price	\$	5.000
10	Settlement Differential (Futures Price minus NYMEX Close)	\$	(4.980)
11	Storage @ Average Cost	\$	4.500
12	Hedge Transaction Cost per MMBtu	\$	0.050
13	Purchase Gas Cost Discount from Benchmark	\$	(0.080)
14	Storage % of Total Requirements		42%
15	Purchase Gas % of Total Requirements		58%
16	Hedge % of Purchased Gas		50%
17	Winter Mo Usage per Residential Customer (MCF)		14

# EXAMPLE A

## UNITED CITIES GAS COMPANY TENNESSEE HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

Winter 2000-01 Maximum Price Scenario:  
Period: One month

### Volume Scenario:

	Without Hedging	With Hedging
18 Total Requirements for Tennessee	3,329,000	3,329,000
19 Total Storage WD for Tennessee	1,396,000	1,396,000
20 Required Purchases	1,933,000	1,933,000
21 Financial Hedge % of Purchased Gas	58%	50%
22 Financial Hedge Volumes (Rounded 10,000)	-	970,000

### Impact of Hedging on Gas Cost:

	Without Hedging		With Hedging	
	Quantity	Price	Quantity	Price
<b><u>PBR Physical Purchase Calculation</u></b>				
23				

### Financial Hedge Independent of PBR Booked Directly to Account 191

28 Settlement Difference (Benefit) / Cost	\$ -	970,000	\$ (4.980)	\$ (4,830,600)
29 (Futures Purchase Price minus NYMEX Close)	\$ -	970,000	\$ 0.050	\$ 48,500
30 Hedge Transaction Cost	\$ -	970,000	\$ (4.930)	\$ (4,782,100)
31 Total Hedge (Benefit) / Cost				
32				
33 Average Cost of Gas	3,329,000	\$ 7.635	3,329,000	\$ 6.199
34 (Benefit) / Cost of Hedging on Gas Cost			3,329,000	\$ (1,436)
				\$ (4,782,100)

### Impact of Hedging on Residential Customer:

35 Variance from Unhedged Cost	3,329,000	\$ (1.436)	\$ (4,782,100)
36 Winter Mo Usage per Residential Customer (MCF)		14	



**EXAMPLE A**

**UNITED CITIES GAS COMPANY  
TENNESSEE  
HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES**

**Winter 2000-01 Maximum Price Scenario:  
Period: One month**

37	One Month (Benefit) / Cost to Residential Customer	\$ (20.11)
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38	Note: Hedging costs or benefits do not affect PBR mechanism. The effects of financial hedges are recorded in the 191 account.	
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**EXAMPLE B**

**UNITED CITIES GAS COMPANY  
TENNESSEE  
HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES**

**High Price Scenario:**

**Period: One month**

**Assumptions:**

1. Supply contract is for physical volumes
2. Storage price is based on April 2001 through October 2001 NYMEX strip
3. Residential usage in a typical winter month is 140 ccf (14 MCF) per customer
4. BTU factor is 1000
5. NYMEX Close and Benchmark are equivalent and are greater than futures contracts purchased

**Period Analyzed:**

- 6 One month based on January normal requirements and storage volumes

**High Price Scenario:**

**Assumptions:**

7	NYMEX Close	\$	7.000
8	Benchmark	\$	7.000
9	Futures Contract Price	\$	5.000
10	Settlement Differential (Futures Price minus NYMEX Close)	\$	(2.000)
11	Storage @ Average Cost	\$	4.500
12	Hedge Transaction Cost per MMBtu	\$	0.050
13	Purchase Gas Cost Discount from Benchmark	\$	(0.080)
14	Storage % of Total Requirements		42%
15	Purchase Gas % of Total Requirements		58%
16	Hedge % of Purchased Gas		50%
17	Winter Mo Usage per Residential Customer (MCF)		14

# EXAMPLE B

## UNITED CITIES GAS COMPANY TENNESSEE HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

High Price Scenario:  
Period: One month

### Volume Scenario:

18	Total Requirements for Tennessee	Without Hedging	3,329,000	100%	With Hedging	3,329,000	100%
19	Total Storage WD for Tennessee		1,396,000	42%		1,396,000	42%
20	Required Purchases		1,933,000	58%		1,933,000	58%
21	Financial Hedge % of Purchased Gas					50%	
22	Financial Hedge Volumes (Rounded 10,000)					970,000	

### Impact of Hedging on Gas Cost:

23		Without Hedging		With Hedging	
		PBR Physical Purchase Calculation			
		Quantity	Price	Quantity	Price
24	Storage Gas Cost	1,396,000	MMBtu	1,396,000	MMBtu
25	Purchase Gas Cost (Market Based)	1,933,000	\$ 4,500	1,933,000	\$ 4,500
26	Purchase Gas Cost Discount from Benchmark	1,933,000	\$ 7,000	1,933,000	\$ 7,000
27	Gas Cost Before Hedge	1,933,000	\$ (0.080)	1,933,000	\$ (0.080)
			\$19,658,000		\$19,658,000

### Financial Hedge Independent of PBR Booked Directly to Account 191

28					
29	Settlement Difference (Benefit) / Cost				
30	(Futures Purchase Price minus NYMEX Close)				
31	Hedge Transaction Cost	\$ -	970,000	\$ (2,000)	\$ (1,940,000)
32	Total Hedge (Benefit) / Cost	\$ -	970,000	\$ 0.050	\$ 48,500
			970,000	\$ (1,950)	\$ (1,891,500)
33	Average Cost of Gas	3,329,000	\$ 5.905	3,329,000	\$ 5.337
			\$19,658,000		\$17,766,500
34	(Benefit) / Cost of Hedging on Gas Cost	3,329,000	\$ (0.568)	3,329,000	\$ (1,891,500)

### Impact of Hedging on Residential Customer:

35	Variance from Unhedged Cost	3,329,000	\$ (0.568)	\$ (1,891,500)
36	Winter Mo Usage per Residential Customer (MCF)		14	

UNITED CITIES GAS COMPANY  
TENNESSEE  
HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

37 One Month (Benefit) / Cost to Residential Customer \$ (7.95)

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## EXAMPLE C

### UNITED CITIES GAS COMPANY TENNESSEE HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

#### Neutral Price Scenario:

Period: One month

#### Assumptions:

1. Supply contract is for physical volumes
2. Storage price is based on April 2001 through October 2001 NYMEX strip
3. Residential usage in a typical winter month is 140 ccf (14 MCF) per customer
4. BTU factor is 1000
5. NYMEX Close and Benchmark are equivalent and are equal to futures contracts purchased

#### Period Analyzed:

- 6 One month based on January normal requirements and storage volumes

#### Neutral Price Scenario:

##### Assumptions:

7	NYMEX Close	\$	5,000
8	Benchmark	\$	5,000
9	Futures Contract Price	\$	5,000
10	Settlement Differential (Futures Price minus NYMEX Close)	\$	-
11	Storage @ Average Cost	\$	4,500
12	Hedge Transaction Cost per MMBtu	\$	0.050
13	Purchase Gas Cost Discount from Benchmark	\$	(0.080)
14	Storage % of Total Requirements		42%
15	Purchase Gas % of Total Requirements		58%
16	Hedge % of Purchased Gas		50%
17	Winter Mo Usage per Residential Customer (MCF)		14

UNITED CITIES GAS COMPANY  
TENNESSEE  
HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

	Without Hedging	With Hedging
Volume Scenario:		
18 Total Requirements for Tennessee	3,329,000	3,329,000
19 Total Storage WD for Tennessee	1,396,000	1,396,000
20 Required Purchases	1,933,000	1,933,000
21 Financial Hedge % of Purchased Gas	-	50%
22 Financial Hedge Volumes (Rounded 10,000)	-	970,000

## With Hedging

	Quantity	Price	Cost	Quantity	Price	Cost	
		MMBtu			MMBtu		
23							
24	Storage Gas Cost	1,396,000	\$ 4.500	\$ 6,282,000	1,396,000	\$ 4.500	\$ 6,282,000
25	Purchase Gas Cost (Market Based)	1,933,000	\$ 5.000	\$ 9,665,000	1,933,000	\$ 5.000	\$ 9,665,000
26	Purchase Gas Cost Discount from Benchmark	1,933,000	\$ (0.080)	\$ (155,000)	1,933,000	\$ (0.080)	\$ (155,000)
27	Gas Cost Before Hedge			<u>\$15,792,000</u>			<u>\$15,792,000</u>

		<b>Financial Hedge Independent of PnL Booked Directly to Accounts</b>		
28				
29	Settlement Difference (Benefit) / Cost	\$ -	\$ 970,000	\$ -
30	(Futures Purchase Price minus NYMEX Close)	\$ -	\$ 970,000	\$ 48,500
31	Hedge Transaction Cost			
32	Total Hedge (Benefit) / Cost	\$ -	\$ 970,000	\$ 48,500

33	Average Cost of Gas	3,329,000	\$ 4.744	<u>\$15,792,000</u>	3,329,000	\$ 4.758	<u>\$15,840,500</u>
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34	(Benefit) / Cost of Hedging on Gas Cost	3,329,000	\$	0.015	\$	48,500
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35	Variance from Unhedged Cost	3,329,000	\$	0.015	\$	48,500
36	Winter Mo Usage per Residential Customer (MCF)			14		



## EXAMPLE D

### UNITED CITIES GAS COMPANY TENNESSEE HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

#### Low Price Scenario:

Period: One month

#### Assumptions:

1. Supply contract is for physical volumes
2. Storage price is based on April 2001 through October 2001 NYMEX strip
3. Residential usage in a typical winter month is 140 ccf (14 MCF) per customer
4. BTU factor is 1000
5. NYMEX Close and Benchmark are equivalent and are less than futures contracts purchased

#### Period Analyzed:

- 6 One month based on January normal requirements and storage volumes

#### Low Price Scenario:

##### Assumptions:

7	NYMEX Close	\$	3.000
8	Benchmark	\$	3.000
9	Futures Contract Price	\$	5.000
10	Settlement Differential (Futures Price minus NYMEX Close)	\$	2.000
11	Storage @ Average Cost	\$	4.500
12	Hedge Transaction Cost per MMBtu	\$	0.050
13	Purchase Gas Cost Discount from Benchmark	\$	(0.080)
14	Storage % of Total Requirements		42%
15	Purchase Gas % of Total Requirements		58%
16	Hedge % of Purchased Gas		50%
17	Winter Mo Usage per Residential Customer (MCF)		14



# EXAMPLE D

## UNITED CITIES GAS COMPANY TENNESSEE HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES

Low Price Scenario:  
Period: One month

### Volume Scenario:

	Without Hedging		With Hedging
18 Total Requirements for Tennessee	3,329,000	100%	3,329,000
19 Total Storage W/D for Tennessee	1,396,000	42%	1,396,000
20 Required Purchases	1,933,000	58%	1,933,000
21 Financial Hedge % of Purchased Gas			50%
22 Financial Hedge Volumes (Rounded 10,000)	-		970,000

### Impact of Hedging on Gas Cost:

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### Impact of Hedging on Residential Customer:

35 Variance from Unhedged Cost	3,329,000	\$ 0.597	\$ 1,988,500
36 Winter Mo Usage per Residential Customer (MCF)		<u>14</u>	

**EXAMPLE D**

**UNITED CITIES GAS COMPANY  
TENNESSEE  
HEDGING ANALYSIS UTILIZING NYMEX FUTURES CONTRACT PURCHASES**

**Low Price Scenario:  
Period: One month**

37	One Month (Benefit) / Cost to Residential Customer	\$ 8.36
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38	Note: Hedging costs or benefits do not affect PBR mechanism. The effects of financial hedges are recorded in the 191 account.	
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